

Electronic Waste Management

Environmental Assistance Conference
October 29, 2008



What is e-waste?

- Definition varies
- Loosely applied to consumer and business electronic equipment that is near or at the end of its useful life
- Commonly includes computers, televisions, VCRs, printers, copiers, fax machines as well as DVD and MP3 players

Why is e-waste an issue?

- Fast growing waste stream
- Contains hazardous materials
- Some components have value
- Increased environmental awareness
- Confidentiality issues

How big is the problem?

Nationally	Source	S.C.*
2.9 million tons (1.2% of MSW generated)	U.S. EPA (FY06)	60,144 tons
133,000 PCs discarded per day	Computer TakeBack Campaign (2003)	1,942 PCs discarded per day
61.1 million PCs sold per year	Computer TakeBack Campaign (2007)	892,060 PCs sold per year
20 million TVs sold per year	Consumer Electronics Association (2004)	292,000 TVs sold per year

*calculated from national numbers

End-of-life Options

- Waste Prevention
 - Upgrading or repairing
 - Leasing
 - EPEAT (www.epeat.net)
- Donation (Reuse)
- Recycling
- Treat as hazardous waste
- Non-hazardous waste determination

Recycling

- Manufacturer or retailer take-back programs
- Local government collection programs
- Recycling companies
- State-term contract



DHEC's Office of Solid Waste Reduction and Recycling
For Your Information...

Electronic Recycling Options for Households

Unwanted electronics from households – such as computers, televisions and cell phones – should be managed responsibly.

In South Carolina, residents in Barnwell, Charleston, Hampton and York counties can recycle unwanted electronics in their local recycling programs. Other local programs may have collection events throughout the year. For more information, contact your local recycling coordinator or solid waste department. For assistance in contacting your local program, contact the South Carolina Department of Health and Environmental Control Solid Waste Reduction and Recycling at 1-800-www.scdhec.gov/recycle/html/counties.html

Residents also are encouraged to take advantage of a number of recycling options for household electronics which are available through retail stores and manufacturers. Some of the programs are free, while others charge a fee. Look for the best deal available.

This information is not to be considered an endorsement of any retail outlet or recycling program. This information is intended to provide a general overview of the information outlined change frequently. For the most current information, contact the program.

In South Carolina, businesses must follow local regulations regarding the proper management of computer monitors, televisions and other electronic equipment. For more information, see "Cathode Ray Tubes and Electronics Management" technical assistance sheet at www.scdhec.gov/recycle/html/pubs.html

Retail Recycling Programs for Cell Phones and Rechargeable Batteries

Some retail stores in South Carolina provide convenient recycling options for consumers who want to recycle electronics, particularly cell phones and rechargeable batteries.

- **Best Buy** provides free and easy recycling of cell phones, printer ink cartridges and rechargeable batteries at any of their 600-plus retail locations nationwide. For more information, visit www.bestbuy.com.
- Through the **Rechargeable Battery Recycling Corporation's (RBRC) Call2Recycle™** program, including Altel, Batteries Plus, Circuit City, Lowe's, Radio Shack, Sears, Target, Wal-Mart and others, stores that sell batteries offer drop-offs for rechargeable batteries and unwanted cell phone accessories. Visit www.rbrc.org/call2recycle/index.php or call 1-877-2-RECYCLE to find a location.

locations. Usable phones are refurbished for donation and the rest are recycled with a portion of the proceeds given to charity.

- **Sprint's Project Connect** offers free drop-off of all brands of cell phones.

COMPUTER/TELEVISION RECYCLING ADVISORY

If you are a household...

Households are encouraged to recycle computers, televisions and other electronics. Households should check with their local government to determine what options – including donations to community groups – are available in their area. As a last resort, households are allowed to throw away electronics as part of their household waste, but this is NOT encouraged.

Residents in many communities can recycle unwanted electronics in their local recycling programs. Some local programs accept electronics at recycling drop-off sites. Others may hold single-day collection events. For more information, visit www.scdhec.gov/environment/wm/recycle/counties.htm.

For additional household recycling options – including take-back programs of manufacturers and retailers – see the "FYI: Electronics Recycling Options for Households" fact sheet at www.scdhec.gov/environment/wm/recycle/pubs/e-waste_2.pdf.

If your household decides to recycle, there are private companies that also offer to recycle computers and televisions. This is an important decision. Before you pay a company to recycle your computer or television, ask how the equipment is managed and recycled. Many environmental experts discourage exporting electronics waste out of the country. Improper disposal poses potential risks to human health and the environment.

This advisory provides recommendations and guidelines for the proper reuse, recycling and disposal of computers and televisions in South Carolina.

Electronics waste poses a potential risk to human health and the environment. Electronics are one of the largest known sources of dangerous heavy metals in the waste stream. Computer monitors and televisions have cathode ray tubes (CRTs), which may contain four to eight pounds of lead. Clearly, this waste must be properly managed.

If you are a business...

Businesses should not throw away computers and other electronic equipment and must follow all state and federal regulations regarding the proper management of electronics waste. Call DHEC's Division of Compliance and Enforcement at 803-896-4136 for information on applicable hazardous waste regulations. Generally, businesses have four options.

1. Donate the equipment to an organization for reuse (e.g., non-profits, schools and churches).
2. Recycle it.
3. Dispose of it as a hazardous waste.
4. Dispose of it as a non-hazardous waste if it can be proven the equipment is not hazardous through a Toxicity Characteristic Leaching Procedure (TCLP) test or through Knowledge of Process (KOP). KOP means the business has data or other information from the manufacturer that the components will not be hazardous if properly disposed. Keep all records.

E-WASTE

The sheer amount of electronic equipment that we buy, depend on, enjoy and then discard has resulted in a growing environmental challenge – electronic waste or E-Waste.

E-Waste is one of the fastest rising waste streams in the nation. Each year hundreds of thousands of computers,

CATHODE RAY TUBES AND ELECTRONICS MANAGEMENT

The S.C. Department of Health and Environmental Control (DHEC) promotes the safe recycling and disposal of cathode ray tubes (CRTs) and other electronic equipment. This publication is designed to assist households and businesses in determining proper management options.

WHY ARE CRTs AN ISSUE?

CRTs are the main component that produces the image you see on a television or computer monitor. They contain toxic substances.



END OF CRTs

Proper management of CRTs and other electronics is critical.

Businesses should check with their local government for proper management of computer equipment. (Visit www.scdhec.gov for more information.) Residents can help by making changes in their purchasing habits and properly managing their E-Waste. For more information on local programs, visit www.scdhec.gov/recycle/html/counties.html or call 1-800-768-7348.

Businesses must follow state and local regulations for the management of computer monitors. Improperly managed electronics waste can be a business liability. If a business chooses a collector/recycler who improperly manages or disposes of electronics waste, the business (the generator of the waste) may be liable for cleanup. According to state and federal regulations, hazardous waste generators are responsible for final disposition of hazardous waste. Businesses should give as much thought to the selection of a collector/recycler of electronics waste as they would give to any other hazardous waste collector or recycler.

S.C. Department of Health and Environmental Control
 Office of Solid Waste Reduction and Recycling

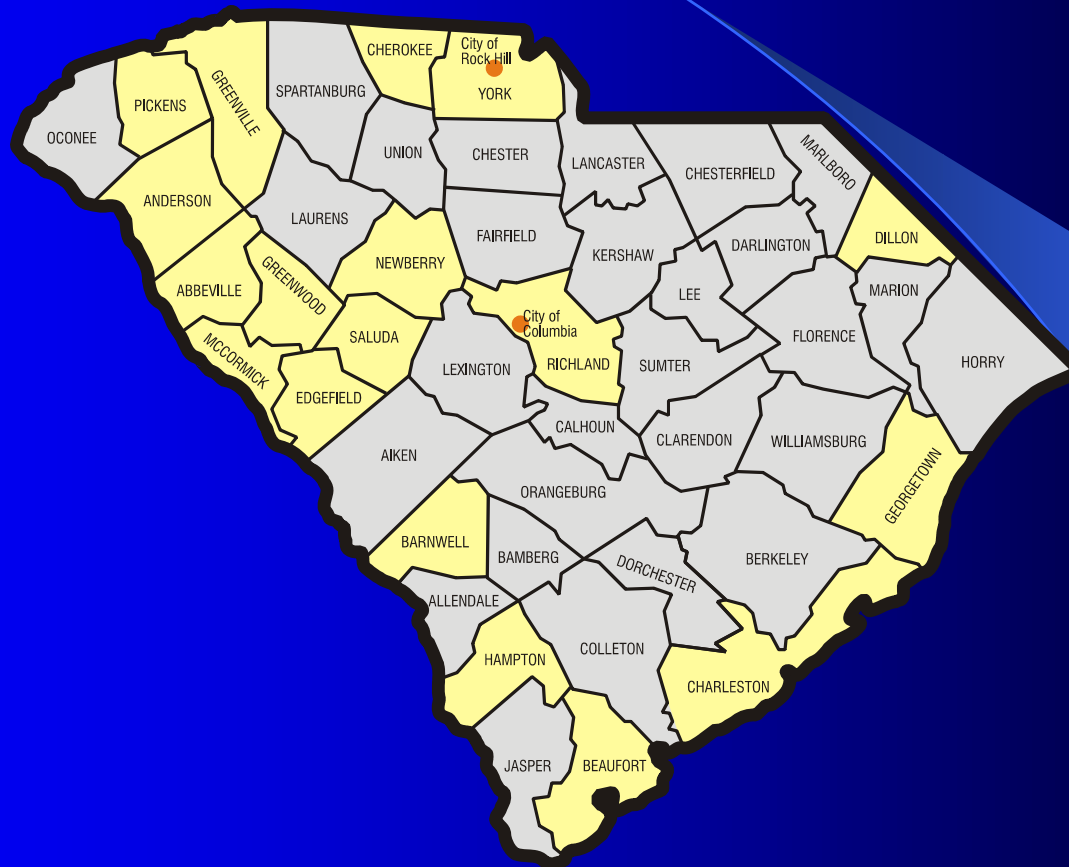
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S.C. Programs



Recycling Market Resources

- Smart Business Recycling Program
- Local governments
- Recycling companies
- Index of Waste Minimization Resources

www.scdhec.gov/eqc/admin/html/wmrindex.html

- S.C. Materials Exchange

www.scdhec.gov/scme

E-waste Legislation

- California (2003)
- Maine (2004)
- Maryland (2005)
- Washington (2006)
- Minnesota (2007)
- Oregon (2007)
- Texas (2007)
- Connecticut (2007)
- North Carolina (2007)
- New Jersey (2008)
- Virginia (2008)
- West Virginia (2008)
- Oklahoma (2008)
- Missouri (2008)
- Rhode Island (2008)
- Hawaii (2008)
- Illinois (2008)
- 50 bills dealing with e-waste introduced in 2008

Four Basic Questions

- What is included?
- Who is included?
- How is it financed?
- How are items collected?

Components of a Successful Program

- Convenient and simple
- Public education
- Free of cost at end-of-life
- Incorporate existing recyclers
- Reuse and export issues addressed
- Goals/measurement

S.C. Perspective

- Previous legislative attempts
 - SB 178 (2005)
 - HB 4510 and SB 1132 (2006)
 - HB 3392, HB 3398 and SB 169 (2007)
 - HB 3392, HB 3398 and SB 169 (2008)
- What's next ??

National Efforts

- Federal e-waste concept paper and legislation
- Export agreements/restrictions
- Standards for e-waste recyclers

More Information

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